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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/703,264

10/31/2000

James C.H. Thi

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04/16/2009

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EXAMINER

JAMAL, ALEXANDER

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

04/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/703,264	THI ET AL.	
	Examiner	Art Unit	
	ALEXANDER JAMAL	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Based upon the submitted amendment, the examiner notes that no claims have been amended, only arguments submitted.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 1-39** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In view of the current amendment, the examiner notes that applicant has claimed a system with both a hybrid and speaker microphone coupled to the same driving point (as shown in applicant's figure 7). The examiner contends that this is not an obvious or well known configuration and examiner contends one skilled in the art would not know how to implement such an interface based on applicant's disclosure. The examiner had previously requested an explanation from applicant (office action filed 12-5-2007) as to exactly how this interface would work.

The examiner notes that applicant has stated that the electrical echo in the claims is not referring to any parasitic coupling at the interface, as such the examiner contends there is no other well known implementation of applicant's Fig. 7 and as such, the parallel processing of applicant's claimed echo canceller would not be able to be implemented.

Response to Arguments

1. Applicant's arguments have been fully considered but they are not persuasive.

As per applicant's arguments that the drawings and claimed device is enabled by the specification, the examiner disagrees. As discussed in the interview, the drawing of Fig. 7, which shows both acoustic and electrical echo as claimed is not clear. The examiner notes that applicant's figure 7 shows the **same** signal $V(n)$ going to both the Hybrid H and the speaker 329. There is no well known configuration where this occurs. It is not obvious to one skilled in the art how or why this would be implemented. The drawing is not accurate, and there is not an accurate description of exactly where the acoustic and electrical echo come from.

In the interview the applicant's representatives disclosed that the acoustic echo is from a telephone that is attached to SLIC hybrid, where the SLIC hybrid produces the electrical echo. It is not clear how applicant's claimed adaptive filter would differentiate between the two sources of echo by using the same reference input signal 300.

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Further, applicant's specification does not disclose an algorithm that is able to take into account all of the processing circuitry from the output of Hybrid through the acoustic feedback path. Applicant's drawings do not even show any of the other circuitry. The signal $V(n)$ being output from the hybrid is not the same signal $V(n)$ being input into the loudspeaker. The signal $V(n)$ must travel over the communications medium and through the telephone interface and through the loudspeaker driver before it is output.

How will the adaptive algorithm differentiate which is electrical echo and which is acoustic echo?

How will the adaptive algorithm take into the account the hybrid, the electrical echo, the communications medium, the telephone interface and the acoustic echo path when trying to adapt to the acoustic echo?

The 'combiner' mentioned in applicant's arguments has nothing to do with the acoustic echo path.

Applicant states that Figure 7 highlights three areas of echo. One of them being the music generation block 326. **This is not echo, this is seen as an interference source to the echo canceller.**

Applicant's remarks have not disclosed any indication of an adaptive algorithm that will perform the claimed functions in the disclosed configuration.

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2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

April 16, 2009

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